UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,425	06/24/2003	Jerry Ditter	PALL.107C1	3308

20995 7590 06/02/2009

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
CHEVALIER, ALICIA ANN	
ART UNIT	**PAPER NUMBER**
1794	

NOTIFICATION DATE	DELIVERY MODE
06/02/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No.	Applicant(s)	
	10/603,425	DITTER ET AL.	
	Examiner	Art Unit	
	ALICIA CHEVALIER	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,7,13-16,18,21,22,25-27,29,30 and 35-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7,13-16,18,21,22,25-27,29,30 and 35-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

RESPONSE TO AMENDMENT

1. Claims 1, 7, 13-16, 18, 21, 22, 25-27, 29, 30 and 35-44 are pending in the application, claims 2-6. 8-12, 17, 19, 20, 23, 24, 28 and 31-34 have bee cancelled.

2. Amendments to the claims, filed on March 3, 2009, have been entered in the above-identified application.

WITHDRAWN REJECTIONS

3. The 35 U.S.C. §103 rejection over Karbachsch et al. (US Patent No. 4,983,288) in view of Ditter et al. (US Patent No. 5,846,422) and Miller (US Patent 4,906,371), made of record in the office action mailed September, pages 2-6, paragraph #5 has been withdrawn due to Applicant's amendment in the response filed March 3, 2009.

REJECTIONS

4. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action**.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does include the limitation "discrete layers". However,

since the limitation was part of the originally disclosed claim there is support for the limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deutsch (U.S. Patent No. 4,280,909).

Regarding Applicant's claim 39, Deutsch discloses a filter laminate (*col. 6, line 25*) comprising a plurality of discrete layers of material (*col. 4, lines 9-11 and figure 1*), wherein each layer is adjacent at least one other layer (*figure 1*). The plurality of discrete layers comprise a first and second membrane, wherein each membrane is an asymmetric membrane having a skin surface and an open surface (*figure 1 and col. 4, lines 1-3*), wherein pores of the open surface have an average diameter at least about 5 times greater than an average diameter of pores of the skin surface (*col. 5, line 65 through col. 6, line 5*), and wherein the asymmetric region is deemed to comprise flow channels that gradually increase in diameter from said skin surface to said open surface (*figure 1*); and a bond between the skin surface of the first membrane and the open surface of the second membrane (*col. 4, lines 9-11 and figure 1*).

Deutsch fails to disclose wherein an average pore size of the pores of the open surface of the first membrane is larger than an average pore size of the pores of the open surface of the second membrane. However, where in the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges in pore size of the first membrane relative to the second membrane involve only routine skill in the art, absence a showing of criticality.

MPEP 2144.05 II. Thus, the filter laminate is deemed to have a flow rate therethrough such that the filter laminate is configured for separation by filtration.

Regarding Applicant's claim 40, Deutsch discloses that for at least one of the first membrane and the second membrane, an average diameter of said pores of said skin surface is i. from about 0.01 μm to about 10.0 μm (*col. 5, line 65 through col. 6, line 8*).

Regarding Applicant's claim 41, Deutsch discloses that for at least one of the first membrane and the second membrane, an average diameter of said pores of said skin surface is less than about 0.01 μm (*col. 5, line 65 through col. 6, line 8*).

7. Claims 7, 13-16, 18, 21, 22, 25, 29, 30, 35-39, 42-44 rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. (U.S. Patent No. 5,236,588).

Regarding Applicant's claims29, 30, 35, 36 and 42, Zhang discloses a filter laminate (*col. 4, line 23*) comprising a of layer of material with two zones (*figure 4*), wherein each zone is adjacent at least one other zone. The zones comprise a first and second membrane, wherein each membrane is an asymmetric membrane having a skin surface and an open surface (*figure 4*), wherein pores of the open surface have an average diameter at least about 5 or 10 times greater than an average diameter of pores of the skin surface (*col. 2, lines 65-68*), and wherein the asymmetric region is deemed to comprise flow channels that gradually increase in diameter from said skin surface to said open surface (*figure 4*); and a bond between the open surface of the first membrane and the open surface of the second membrane (*figure 41*).

Zhang fails to disclose a plurality of discrete layers. Furthermore, Applicant's specification is silent as to with regard to the plurality of "discrete" layers. Therefore, since Applicant does not appear to discloses criticality to the process of having "discrete" layers the

single layer with dual zones of Zhang is deemed to be equivalent (MPEP § 904.01 (b) and § 2183) to Applicant's claimed plurality of "discrete" layers, since the resulting structure in both is a filter with a first and second membrane, wherein each membrane is an asymmetric membrane having a skin surface and an open surface, wherein pores of the open surface have an average diameter at least about 5 times greater than an average diameter of pores of the skin surface, and wherein the asymmetric region is deemed to comprise flow channels that gradually increase in diameter from said skin surface to said open surface; and a bond between the open surface of the first membrane and the open surface of the second membrane. Thus, the filter laminate is deemed to have a flow rate therethrough such that the filter laminate is configured for separation by filtration.

Regarding Applicant's claims 43 and 37, Zhang discloses that for at least one of the first membrane and the second membrane, an average diameter of said pores of said skin surface is i. from about 0.01 μm to about 10.0 μm (*col. 2, lines 65-68*).

Regarding Applicant's claims 44 and 38, Zhang discloses that for at least one of the first membrane and the second membrane, an average diameter of said pores of said skin surface is less than about 0.01 μm (*col. 2, lines 65-68*).

Regarding Applicant's claim 21, furthermore, the filter laminate disclosed by Zhang would necessary have a higher bubble point than either the first membrane or the second membrane, wherein a bubble point of the filter laminate is greater than a bubble point of the first membrane layer and the second membrane layer in a skin-to-skin configuration without bonding, and wherein the filter laminate has a greater integrity than a combination wherein the skin surface of the first membrane and the skin surface of the second membrane are adjacent to each

other but not bonded to each other, wherein the filter laminate has a flow rate therethrough such that the filter laminate is configured for separation by filtration, since Zhang discloses that same membrane configuration (figure 4).

Regarding Applicant's claim 7, Zhang discloses that the asymmetric region of at least one of said first membrane and said second membrane comprises a reticular network of flow channels (figure 4).

Regarding Applicant's claims 13 and 14, Zhang fails to disclose a third layer or zone bonded to the first or second membrane. However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use a three layers/zones, since it has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced and would involve only routine skill in the art. MPEP 2144.04 VI B. One of ordinary skill in the art would have been motivated to use three layers are zones to filter more.

Regarding Applicant's claims 15, 16, 18, 22, Zhang discloses that the first membrane and the second membrane comprises a polymer selected from the group consisting of polyvinylidene fluoride, polyarylsulfone, polyethersulfone, polyamides, and cellulosic derivatives or comprises a material selected from the group consisting of polyester, polypropylene, polyolefin, polyethylene, nylon, paper, cellulose, glass fiber, and acrylic (*col. 3, line 53 through col. 4, line 3*).

Regarding Applicant's claim 25, Zhang discloses that the filter laminate is permeable to water (*col. 1, lines 8-16*).

8. Claims 1, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. (U.S. Patent No. 5,236,588) in view of Miller et al. (U.S. Patent No. 4,906,371).

Zhang is relied upon as described above.

Zhang fails to disclose the first membrane and that the laminate comprises a hot melt adhesive bonding layer.

Miller discloses a filter element having an asymmetric microporous membrane (*title, col. 9, lines 46-62*). Miller further discloses bonding the membrane to additional layers with a solventless hot melt adhesive, such that it does not have a low melt temperature that it will not adhesively function at typical heat sterilization and autoclave temperatures (*col. 12, lines 40-51*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a hot melt adhesive as taught by Miller to Zhang in order to bond the zones together in order to provide a bonding material that will function under heat sterilization and autoclave temperatures.

ANSWERS TO APPLICANT'S ARGUMENTS

9. Applicant's arguments in the response filed March 3, 2009 regarding the previous rejections of record have been considered but are moot since the rejections have been withdrawn.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alicia Chevalier/
Primary Examiner, Art Unit 1794
5/29/2009